Application No.: 09/870,397 Docket No.: 21581-00271-US

AMENDMENTS TO THE CLAIMS

Claims 13 and 21 are currently amended. New claims 26 and 27 are presented.

1-12. (Canceled)

13. (Currently Amended) A vinyl polymer which has at least one terminal functional group per molecule and has a ratio of weight average molecular weight to number average molecular weight of less than 1.8 as determined by gel permeation chromatography and has a number average molecular weight 500-100,000 ,said terminal functional group being a crosslinking silyl group of the general formula (1) shown below,

$$-\{Si(R^1)_{2-b}(Y)_bO\}_m-S_1(R^2)_{3-a}(Y)_a \qquad (1)$$

wherein R^1 and R^2 each independently represents an alkyl group containing 1 to 20 carbon atoms, an aryl group containing 6 to 20 carbon atoms, an aralkyl group containing 7 to 20 carbon atoms, or a triorganosiloxy group of the formula $(R')_3SiO-$, R' being a monovalent hydrocarbon residue containing 1 to 20 carbon atoms and the three R' groups being the same or different, provided that when a plurality of R^1 or R^2 groups occur, they may be the same or different; Y represents a hydroxyl group or a hydrolyzable group, provided that when a plurality of Y groups occur, they may be the same or different; a represents 0, 1, 2 or 3, b represents 0, 1 or 2, and m represents an integer of 0 to 19, provided that the condition $a + mb \geq 1$ should be satisfied, wherein the vinyl polymer having at least one terminal crosslinking silyl group is prepared by adding a hydrosilane compound having a crosslinking silyl group to a vinyl polymer having at least one alkenyl group which is prepared by adding a compound having at least two poorly polymerizable alkenyl groups to a reaction mixture when synthesizing a vinyl polymer by living radical polymerization.

14. (Previously Presented) The vinyl polymer according to claim 13, wherein the radio of weight average molecular weight to number average molecular weight as determined by gel permeation chromatography is not more than 1.7.

15. (Previously Presented) The vinyl polymer according to claim 13, wherein the ratio of weight average molecular weight to number average molecular weight as determined by gel permeation chromatography is not more than 1.6.

16. (Previously Presented) The vinyl polymer according to claim 13 wherein the ratio of weight average molecular weight to number average molecular weight as determined by gel permeation chromatography is not more than 1.5.

17. (Previously Presented) The polymer according to claim 13, wherein its main chain is a (meth)acrylic polymer.

18. (Previously Presented) The polymer according to claim 17, wherein the main chain is an acrylate ester polymer.

19. (Previously Presented) The polymer according to claim 13, wherein the main chain is produced by atom transfer radical polymerization.

20. (Previously Presented) The polymer according to claim 13 as produced by converting a terminal halogen group of the halogen-terminated vinyl polymer to a crosslinking silyl-containing substituent.

21. (Currently Amended) The crosslinking silyl-terminated vinyl polymer according to claim 13, wherein Y in general formula (1) is a hydrogen atom, a halogen atom, a hydroxyl, alkoxyl, acyloxy, ketoximate, amino, amido, aminoxyl, mercapto or alkenyloxyl group, provided that when a plurality of Y groups occur, they may be the same or different with each other.

22. (Previously Presented) The vinyl polymer according to claim 21, wherein Y in general formula (1) is an alkoxyl group.

23-25 (Canceled)

26. (New) The vinyl polymer according to claim 13, wherein the compound having at least two poorly polymerizable alkenyl groups is 1,5-hexadiene, 1,7-octadiene or 1,9-decadiene.

27. (New) The vinyl polymer according to claim 13 or 23, wherein the compound having at least two poorly polymerizable alkenyl groups is added to a reaction mixture at the final stage of polymerization or after completion of polymerizing a given first monomer when synthesizing a vinyl polymer by living radical polymerization.